

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID: CB330001-Influent
Date Received: 06/05/12
Date Extracted: 06/06/12
Date Analyzed: 06/07/12
Matrix: Water
Units: ug/L (ppb)

Client: Landau Associates
Project: BMP Treatment Unit, F&BI 206062
Lab ID: 206062-01
Data File: 206062-01.023
Instrument: ICPMS1
Operator: AP

Internal Standard:
Germanium

% Recovery:
99

Lower
Limit:
60

Upper
Limit:
125

Analyte:

Concentration
ug/L (ppb)

Copper

129

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Landau Associates
Date Received:	Not Applicable	Project:	BMP Treatment Unit, F&BI 206062
Date Extracted:	06/06/12	Lab ID:	I2-363 mb
Date Analyzed:	06/07/12	Data File:	I2-363 mb.008
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	95	Limit:	Limit:
		60	125

Analyte:	Concentration ug/L (ppb)
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Copper	<1
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ENVIRONMENTAL CHEMISTS

Date of Report: 06/13/12

Date Received: 06/05/12

Project: BMP Treatment Unit Testing, F&BI 206062

**QUALITY ASSURANCE RESULTS
FOR THE ANALYSIS OF WATER SAMPLES
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 206022-13 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Copper	ug/L (ppb)	20	<1	91	94	52-134	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Copper	ug/L (ppb)	20	96	81-120

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Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

A1 - More than one compound of similar molecule structure was identified with equal probability.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for this range fell outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte indicated may be due to carryover from previous sample injections.

d - The sample was diluted. Detection limits may be raised due to dilution.

ds - The sample was diluted. Detection limits are raised due to dilution and surrogate recoveries may not be meaningful.

dv - Insufficient sample was available to achieve normal reporting limits and limits are raised accordingly.

fb - Analyte present in the blank and the sample.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. The variability is attributed to sample inhomogeneity.

ht - Analysis performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of normal control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The result is below normal reporting limits. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The analyte result in the laboratory control sample is out of control limits. The reported concentration should be considered an estimate.

jr - The rpd result in laboratory control sample associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the compound indicated is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received in a container not approved by the method. The value reported should be considered an estimate.

pr - The sample was received with incorrect preservation. The value reported should be considered an estimate.

ve - Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

206 062 ☒ Seattle/Edmonds (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (503) 542-1080
☐ _____



Please Bill Alaskan Copper
P.O. # 8920

ME 06-05-12

AI 2
Date 6/5/12
Page 1 of 1

Chain-of-Custody Record

Project Name <u>Alaskan Copper</u> Project No. <u>1198003.010.01</u>		Testing Parameters										Turnaround Time <input checked="" type="checkbox"/> Standard <input type="checkbox"/> Accelerated <input type="checkbox"/> _____				
Project Location/Event <u>BHP Treatment Unit Testing</u>		<div style="writing-mode: vertical-rl; transform: rotate(180deg);">Total Copper</div>										Observations/Comments				
Sampler's Name <u>Rosemary Trimmer</u>																
Project Contact <u>Terry Thompson - Alaskan Copper, Gary Huising, Joe Kallman - Landau</u>		Send Results To <u>Terry Thompson, Gary Huising, Joe Kallman</u>		No. of Containers												
Lab ID	Sample I.D.	Date	Time	Matrix	No. of Containers											
01	C8330001-Treatment	6/5/12	11:15	H2O	1	X										
						<input checked="" type="checkbox"/> Allow water samples to settle, collect aliquot from clear portion <input checked="" type="checkbox"/> NWTPH-Dx - run acid wash/silica gel cleanup <input type="checkbox"/> run samples standardized to _____ product <input type="checkbox"/> Analyze for EPH if no specific product identified VOC/BTEX/VPH (soil): <input type="checkbox"/> non-preserved <input type="checkbox"/> preserved w/methanol <input type="checkbox"/> preserved w/sodium bisulfate <input type="checkbox"/> Freeze upon receipt <input type="checkbox"/> Dissolved metal water samples field filtered Other _____ Samples received at <u>6 °C</u>										
Special Shipment/Handling or Storage Requirements <u>on ice</u>						Method of Shipment <u>deliver to lab</u>										
Relinquished by <u>Rosemary Trimmer</u> Signature <u>Rosemary Trimmer</u> Printed Name <u>Landau Associates</u> Company Date <u>6/5/12</u> Time <u>4:50pm</u>		Received by <u>V/NH</u> Signature <u>V/NH</u> Printed Name <u>FB</u> Company Date <u>6/5/12</u> Time <u>5:50 PM</u>		Relinquished by _____ Signature _____ Printed Name _____ Company Date _____ Time _____		Received by _____ Signature _____ Printed Name _____ Company Date _____ Time _____										

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Bradley T. Benson, B.S.
Kurt Johnson, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
TEL: (206) 285-8282
e-mail: fbi@isomedia.com

June 13, 2012

Joe Kalmer, Project Manager
Landau Associates
130 2nd Ave. S.
Edmonds, WA 98020

Dear Mr. Kalmer:

Included are the results from the testing of material submitted on June 5, 2012 from the BMP Treatment Unit Testing, PO M08920, F&BI 206062 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Matthew Langston
Project Manager

Enclosures

c: Gerald Thompson, Gary Huitsing, Rosemary Trimmer
NAA0613R.DOC